

SVC Meeting Agenda, 6-7 September 2018

Eleventh Annual Autumn 2018 Project Review & IAB Meeting
NSF IUCRC Smart Vehicle Concepts Center <www.SmartVehicleCenter.org>
Hosted by The Ohio State University
Location: E100 & E525 Scott Laboratory, 201 West 19th Avenue, Columbus, OH 43210

DAY 1: Thursday, 6 September 2018 (Room: E100)

OPEN SESSION for Registered Participants

9:45a – 11:30a	Registration
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9:00a – 11:00a	Lab tours and individual research meetings (upon request)
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11:30a – 1:00p	Lunch session	
11:30a	MAE Chair's welcome remarks and introduction	V. Subramaniam
11:45a	Special presentation: Occupant Safety in Highly Automated Vehicles	J. Bolte (OSU)

1:00p – 2:00p	Overview of center activities	Presenter(s)
1:00p	Welcome and state of the center	M. Dapino (OSU)
1:30p	Overview of Industrial Advisory Board meetings and award presentations	R. Hahnlen (Honda R&D)
1:45p	NSF IUCRC Program and LIFE forms	A. Marshall (NSF) and V. Hill (VentureWell)

2:00p – 2:30p	Break (coffee and soft drinks) and student posters
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2:30p – 4:00p	Emerging trends in Smart Vehicle Research (SVC Research Seed Program and SVC REU Program)	Presenter(s)
2:30p	Integrated hyperdamping material systems for vibration, noise, and shock attenuation applications	R. Harne
2:45p	On the feasibility of a temperature state observer for powder bed fusion additive manufacturing	D. Hoelzle
3:00p	Isolation strategies for electrified vehicle powertrains over a broad range of frequencies	L. Fredette
3:15p	Investigation of metal corrosion by in-situ electrochemical force microscopy	H. Cho
3:30p	Solution processing of thermochromic vanadium dioxide smart windows	V. Doan-Nguyen
3:45p	Member's perspective: Development of programmable materials to improve vehicle performance	U. Gandhi (Toyota Research Institute)

4:15p – 5:30p	Student posters continued and informal meetings between sponsors and students/researchers
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5:30p	Adjourn: Non-IAB member may visit the labs and interact with students and researchers upon request.
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5:45p – 7:15p INDUSTRIAL ADVISORY BOARD (IAB) MEETING – Session I (dinner provided) (Room: E525)

Agenda:

- Minutes of March 2018 Meeting and Action Items
- Outstanding Student Presentation
- Spring 2019 Meeting Dates

7:15p – 7:45p Executive session (IAB and NSF only)

DAY 2: Friday, 7 September 2018 (Room: E100)

CLOSED SESSION for SVC Sponsors & Invited Observers only

8:00a – 8:15a	Breakfast (coffee and bagels) & Registration (if not present on Day 1)
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Time	Topic	Organization	Presenter(s)
8:15a – 8:30a	Project topics, leaders and mentors	OSU	V. Sundaresan
	Project evaluations (LIFE forms)	VentureWell (NSF Assessment Coordinator)	V. Hill

LIFE Form Website: <http://iucrc.com/> Password: to be provided



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8:30a-9:50a	Technical Session I: <i>Moderated by S. Chillara</i> (FOR SVC MEMBERS ONLY)	Presenter(s)	SVC#	Project Leader(s)	Mentor(s) (Organization)
8:30a	Umbrella project: Characterization and modeling of passive and adaptive bushings and mounts, Part I and Part II	R. Singh L. Fredette	#40	R. Singh	C. Gagliano (Honda R&D), Y. Zhang (Ford)
9:10a	Mechanoluminescent paintable light sources in automotive lighting systems	S. Krishnan (G)	#46	V. Sundaresan	D. Detwiler, N. Verwys (Honda R&D)
9:30a	Embedded fiber optic sensors for structural health monitoring	S. Chillelli (G)	#49	M. Dapino	T. Greetham (Moog)

9:50a	Break (coffee and soft drinks) / student posters
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10:30a-11:50a	Technical Session II: <i>Moderated by L. Fredette</i> (FOR SVC MEMBERS ONLY)	Presenter(s)	SVC#	Project Leader(s)	Mentor(s) (Organization)
10:30a	Ultrasonic additive manufacturing for automotive structures: UAM process modeling	G. Venkatraman (G)	#51B	M Dapino, B. Gingerich, L. Headings	J. Cartledge (Battelle)
10:45a	UAM for structural reinforcement	Y. Rong (G), T. Han (G)	#51C		R. Hahnlen (Honda R&D)
11:00a	Design of matrix and particulates for simulcure 3D printing technique	P. Vijayaraghavan	#52	V. Sundaresan	M. Mallamaci (Parker Hannifin)
11:20a	Robust Integrated Magnetic Composites (RIMaC) for Magnetic Gears: Magnetic Additively-Manufactured Structural Hybrid (MASH)	I. Nas (G), B. Losey (G)	#54A	M. Dapino	V. Asnani (NASA)
11:35a	Magnetic Gear Drives (MGDs) for automotive applications		#54B		R. Hahnlen (Honda R&D)

11:50a	Working Lunch
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12:30p-1:30p	Technical Session III: <i>Moderated by L. Headings</i> (FOR SVC MEMBERS ONLY)	Presenter(s)	SVC#	Project Leader(s)	Mentor(s) (Organization)
12:30p	Dynamic friction characterization of icy road surfaces	L. Fredette; K. Sommers (U)	#56	R. Singh	A. Mathers, R. Burton (TRC)
12:50p	Flexible piezoelectric sensors for vehicle applications	A. Ramanathan (G)	#57	M. Dapino L. Headings	U. Gandhi (Toyota)
1:10p	Architecture for mechanoluminescent structural sensors and sensing platforms	P. Vijayaraghavan	#58	V. Sundaresan	D. Detwiler, A Sheldon (Honda R&D); G. Roberts, S Miller (NASA)

1:30p

Closed Session Adjourns

(IAB members should go to E525. Non-IAB members may move to labs to talk with students.)

1:30p - 3:00p

INDUSTRIAL ADVISORY BOARD (IAB) MEETING SESSION II (in E525)

Agenda:

- Center Operations – Marcelo Dapino
- LIFE Form Summaries and Discussion – Victoria Hill
- Members’ Perspective
- Action Items and Adjourn